### Eastern Himalaya

Quarterly newsletter of the ATREE Eastern Himalaya / Northeast Regional Office

# Glacial Lake Outburst Flood in Sikkim- a personal experience

In the eerie silence of the night of October 3rd 2023, I experienced one of the most scary moments of my life. Panic gripped me as my frantic attempts to reach my family in Dzongu, North Sikkim failed repeatedly. Phone calls were rendered useless in the absence of connectivity and power. I felt helpless

"Teesta river has breached its banks", "the dam in Chungthang is destroyed", "all bridges, roads along the Teesta have been swept away"-were the news and narratives from all sources. The disaster originated in South Lhonak Lake in the Northern part of Sikkim causing a glacial lake outburst flood (GLOF) in the Teesta River which flows from the heart of Dzongu. This relentless flooding cut off 38 small villages in Dzongu . Social media became a conduit for waves of news, each detailing the impact of the flood. Hours of agonizing uncertainty gave way to a breakthrough. Finally, I spoke to my family in Dzongu. Relief washed over me briefly, only to be snatched away as I watched a video of the last bridge collapsing, severing Dzongu from the world.

My thoughts raced, worried about their wellbeing without access to essentials. It was a cruel reminder of their vulnerability, intensified by memories of the COVID lockdown when basic healthcare in Dzongu felt like a distant luxury.

I rushed home as soon as a bamboo bridge was made by the local communities, linking Dzongu with







Visual of Dzongu landscape after GLOF

the other parts of north Sikkim. The return home greeted me with a transformed landscape, historical and cultural sites wiped away, no trace of the bridges that linked Dzongu valley to Sikkim and the rest of the world. Grateful for my family's safety as I neared home, I couldn't help thinking about climate change related disasters wreaking havoc, accompanied by the mental turmoil in communities living adjacent to rivers.

In the aftermath of the GLOF, my family found themselves stranded, grappling with the lack of connectivity and shortage of supplies. As I recount this harrowing experience, my worry for their safety intertwines with the stark transformation of Sikkim's landscapes.



People on bamboo bridge after the concerte bridge swept away by the GLOF

This serves as a poignant reminder of the fragile existence of millions in the Himalayan region, thrust to the forefront of the impacts of climate change through no fault of theirs. While the blame game persists, there's a profound responsibility to emphasise on the urgency for development initiatives to carefully consider the vulnerability of this unique and sensitive region to climate change impacts.

As I reflect on this personal experience through the depth of Sikkim's climate catastrophe, the result of environmental neglect resonates loudly. The real struggles of individuals, the wiping out of homes, lives and livelihoods, and the mental suffering of communities demand a collective commitment to prioritise sustainable development. In the face of a changing climate, it's time to rewrite the narrative, ensuring that the Himalayan region's resilience becomes the focal point of our development endeavours.

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## Community perception on valuing biodiversity and ecosystem services in corridors linking protected areas in West Bengal



Landscape of the study area

Senchal Wildlife Sanctuary and Mahananda Wildlife Sanctuary are known to be habitats for large mammals, key species of birds and diversity of plants. Wildlife often wander out of the formal boundaries of protected areas in search of novel territories into corridors which are mostly production landscapes. We consulted with communities living in these corridors (tea gardens, agricultural landscapes, private forests, cinchona plantation) to understand how hey value biodiversity they lived amidst. he discussions primarily spanned three broad topics -wildlife, and ecosystem services. They acknowledged the aesthetic value of wildlife, specificallybirds and butterflies. They are keen observers of their surroundings and concerned about the dwindling bird

population in their area. Trees were the most discussed component of biodiversity as enormous value was bestowed to the provisioning services of trees. Communities were involved in voluntary plantation drives and majority of land they owned were now planted with trees instead of edible or cash crops. Communities recognised that tree cover helped in water conservation, climate regulation, and were the foundation for maintaining biodiversity. However they were deeply concerned and troubled about crop and wildlife depredation brought on by the very forests/trees they helped conserve and expand. Restoration narratives and actions have to consider these lived experiences of communities in lands outside protected areas.

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Participants moulding a mixture to make Briquettes

## Workshop for setting up an Enterprise group for Bio-briquettes from invasive plant species in Darjeeling

We organised a 3-days training for 13 women from one Self-Help group in Sittong III, Kurseong, Darjeeling on bio-briquette making from invasive plant species. The training included techniques to make bio-briquettes from key invasive alien plant species-*Lantana camara, Eupatorium adenophorum,* and *Ageratum conyzoides.* Activities in the training included collection of raw materials, preparation of charcoal, charcoal grinding, mixing charcoal powder

and clay soil into a paste and the production of beehive briquettes. The project team also provided 2 sets of briquette moulding machines to the group during the training. After the training participants were trained on basic business strategies and entrepreneurship following which an enterprise group "Women Entrepreneurs Organisation Sittong III " was formed and registered under the Village Panchayat. Post training, the group made 340 briquettes and started marketing by d setting up demonstration stalls in local festivals, Government events like *Dware Sarkar*, Agriculture fairs etc and sold 195 briquettes (INR 30 per piece). This is part of the project "Value-Added products from Invasive Plant Species for improving Livelihoods of Marginalised communities in Indian Himalaya" supported by Department of Biotechnology, Govt. of India.

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### Income Generation Activity for Landless Families

NABARD-supported "Orchard Development and Allied Livelihood Support Project" is also enhancing the livelihoods of 50 landless families through income generation activities. The project focuses on diversifying livelihoods through activities that are not land intensive. These include apiary, livestock (indigenous free ranging poultry and capacity building for entrepreneurship.

Tshering Dorjee Bhutia (tshering.bhutia@atree.org)



Poultry shed



Tank construction

#### **Rural water resource development**

We initiated water resource development activities for the rural irrigation, which included resource mapping, water reserve tank construction, and the installation of lowcost rainwater harvesting ponds. To ensure responsible water resource use and promote ownership among beneficiaries, the Village Planning Committee and Water Guardian Group have also been established. This is part pf the National Bank for Agriculture and Rural Development (NABARD), is implementing the project "Orchard Development and Allied Livelihood Support" in the Sittong III.

Tshering Dorjee Bhutia (tshering.bhutia@atree.org)

#### **Kitchen Garden management training**

As part of the Pangolin conservation project, a five-day Kitchen Garden management training was conducted in Chamong Tea Estate, Darjeeling. Livelihood opportunities in the tea garden area are limited, leaving the communities with little option other than working as tea garden labour. Although large-scale agriculture is not practiced, a significant number of people own small kitchen gardens where several vegetables and food crops are grown mainly for consumption and for small-scale commercial purposes. The overall aim of the five-day Kitchen garden training was to build capacity on nature



Participants during the training session

friendly practices for improving agricultural outputs and to support access to diverse food crops and vegetables. The training included theory classes on types of homestead gardens, crop diversification, food and nutritional gardens including its management, integrated pest management, and pollination. The training also included practical sessions in which visits were made to two field sites to broaden the understanding and awareness of sustainable agricultural practices. The training was attended by 40 participants of which 70% were women representing four SHG groups.



Day 4 of the 69th National Wildlife Week celebration

#### 69th National Wildlife Week celebration

On the 69th National Wildlife Week, a Pangolin campaign "Safeguarding conservation Pangolins: Together We Can '' was observed by ATREE from 1st-4th October in four different places in Darjeeling. The campaign comprised 3 components: i) Kurakani on Salak with the local community (Community dialogues) at Dhajea Tea Estate, and Gopaldhara Tea Estate; ii) Transboundary (Indo-Nepal) Follow-up Meeting to combat cross-border Pangolin trade, at Mirik, Darjeeling; iii) Awareness program for transboundary (Indo-Nepal) school children at

Simana, Darjeeling. The campaign's main objectives were to build awareness of different stakeholders (Enforcement agencies, school children, and local communities) on the current scenario of Pangolin and its illegal cross-border trade. Engagement with the local communities of Rangbhang Valley during the first two days included sharing personal experiences and engaging in group discussions which provided valuable insights into community perspectives related to Pangolin conservation in the area.

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### Promoting Improved Cook stoves as an energy efficient technology for domestic energy use

In our continued efforts to reduce emission and forest degradation we are continuously providing efficient energy technologies to local communities. We have created a pool of master trainers and promoters for construction of mproved Cook Stoves (ICS) in 11 Tea Gardens of Rangbang valley in Darjeeling. During this period, we conducted an awareness program on the benefits of ICS to 301 community members and trained 32 people (14 female and 18 Male) in ICS bricks making and Installation. , funded by Norton LifeLock.



ICS installation

The training was conducted to develop the capacity of local women and youth as ICS promoters and technicians within the project sites and beyond. A total of 282 units of two pothole ICS have been constructed and installed by the master trainers during this period. A total of 1047 ICS units have been installed in the project villages, and have trained 149 people (107 female and 63 male) as master trainers for bricks and ICS construction and installation. This is part of the project "Transforming lives through Efficient Energy Technologies and restoration of degraded lands in the Tea landsca150pe of Rangbang valley Darjeeling'

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Participants at the workshop

### The Pan-Himalayan Habitat and Biodiversity Conservation Training, in Chengdu, China

The Pan-Himalayan Habitat and Biodiversity Conservation Training Course, by the Chinese Academy of Sciences, took place in Chengdu from December 14 to December 26, 2023. The 12-day training involving 21 participants from 5 countries-India, Myanmar, Nepal, Pakistan and Tajikistan. The course included sessions on the significance of biodiversity in the Himalaya region, the 2030 goals of biodiversity conservation, habitat protection, and restoration. Additional modules delved into sustainable resource, biodiversity and ecosystem

monitoring, the role of advanced technology in biodiversity protection, and the impact of climate change and other driving factors. The teaching content, delivered by experts from various research institutions, covered the latest research progress from China, including 2 sessions from the social sciences. The course structure included lectures, group discussions, and two field visits. Resource people from China and Nepal, including the Chinese Academy of Sciences(CAS), The International Centre for Integrated Mountain Development (ICIMOD) and Global Institute for Interdisciplinary Studies (GIIS), delivered lectures. Additionally, researchers from the Chengdu Institute of Biology showcased their work. The training included field visits to Xichang Qionghai Wetland Park and the Giant Panda National Park, providing participants with insights into China's conservation efforts.

Overall, the Training Course provided an opportunity for participants from diverse Himalayan countries to connect and learn from research and conservation professionals. The field expeditions further enriched our understanding of China's conservation initiatives. The course not only offered valuable insights but also fostered meaningful connections among professionals dedicated to preserving the unique ecosystems of the Himalayan region.

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### Addressing the knowledge gap Pangolins in West Bengal in Mahananda Wildlife Sanctuary

Pangolins are a group of scaly insectivorous mammals exclusive to the Afrootropical and Asian regions, with 8 extant species, all of which are threatened due to their demand in food and medicinal markets, aggravated by habitat loss. This group of mammals is the most traded wildlife globally. Two species namely, the Indian Pangolin and the Chinese Pangolin occur in India. In the plains of West Bengal, although there are reports of the species, they have not been subjected to a targeted investigation. Hence, with our ongoing project, we propose to understand the current occurrence and the status of the Pangolin species in two protected areas-Mahananda Wildlife Sanctuary and Buxa Tiger Reserve. Our preliminary field surveys, indicate the presence of the species in Mahananda, though we are yet to understand their status, abundance and habitat.



Research project team with Forest department officials during field work

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### Birding Guide Training in Rangbhang Valley, Darjeeling

ATREE organized a two-day intensive Birding Guide Training on 27th and 28th December 2023. The primary objective of this initiative was to encourage bird tourism in Rangbhang Valley, Darjeeling. 14 participants from the local community, representing three different tea estates and one forest village, actively participated in the training program. During the training, 27 species of birds were sighted and identified by the participants, including— Greater Yellownape Woodpecker and Greyheaded Woodpecker, and two species of kingfishers — Common Kingfisher and White-throated Kingfisher . This was part of the a project funded by Rufford Small Grants.

Aditya Pradhan (aditya.pradhan@atree.org)



Participants



Greater Yellownape Woodpecker

### Birding Guide Training in Makaibari Tea Estate, Darjeeling

Organized as part of the Rufford Small Grants funded project ATREE conducted a two-day intensive Birding Guide Training. 21 young and aspiring guides from the local community were trained in bird identification, guiding skills, and were also introduced to different important flora and fauna of the region through various technical and field sessions, guided by the resource persons. The final checklist prepared during the training session had 43 species. Some notable and uncommon species Banded Bay Cuckoo, Greater Racket-tailed Drongo and Greater Coucal, along with three species of woodpeckers-Greater Yellownape Woodpecker,Greyheaded Woodpecker and Greater Flameback.



Grey-capped Pygmy Woodpecker

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### "When in Sikkim" poster release

On the 25th of December, ATREE Eastern Himalayas in collaboration with Biodiversity Collaborative, launched their "When in Sikkim " campaign at the Kanchendzonga Winter Tourism Festival 2023 in Pelling, Geyzing district, Sikkim. This campaign kicked off with the release of a

poster outlining responsible traveler practices within Sikkim's unique biodiversity and cultural diversity. Mr. Sanjeet Kharel, Minister of Building



Poster release

and Housing, Social Welfare, Women, and Child Development Department, Government of Sikkim, graced the event as the esteemed Chief Guest of Honour. The campaign unfolded over four days, from December 25th to December 28th, providing an immersive experience for participants and festival attendees. During this time, the ATREE team actively engaged with visitors, presenting the campaign poster alongside showcasing various other impactful projects undertaken by ATREE in various regions. The objective was not only to disseminate information but also to foster a deeper understanding and appreciation for the delicate balance between tourism and conservation in Sikkim.



"When in Sikkim" poster



#### New Grant:

Promoting bird conservation through community engagement in the human dominated landscapes of Darjeeling, Eastern Himalaya Oriental Bird Club Conservation Grant No P1545



New Publication: 1. Threatened Pangolins in the Tea Plantations of the Darjeeling Hills Dr. Sunita Pradhan https://roundglasssustain.com/conservation/chinese-pangolin

ATREE's mission is to promote socially just environmental conservation and sustainable development by generating rigorous interdisciplinary knowledge that engages actively with academia, policy makers, practitioners, activists, students and wider public audiences. ATREE's Northeast / Eastern Himalayas Programme has a direct presence in the Darjeeling and Sikkim Himalaya with a range of local partners in the other states of North East India.

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